REVIEW AND COMMENT RECORD

1. Date: February 5, 1993

2. Document Title: Draft Final Technical Memorandum No. 5: Revised Soil Gas Sampling Plan; January 7, 1993 (Revision 1)

Reviewing Agency: Colorado Department of Health **Date:** January 20, 1993

Item	Comment(s)	Disposition	Status
1	The Division is uncomfortable with the single line of soil gas survey points on 20-foot spacing along the downgradient edge of the Landfill. One of the primary purposes and goals of the soil gas survey was to try to establish, in a non-invasive manner, whether or not there are contaminants leaking out of the downgradient edge of the Landfill in the subsurface and potentially impacting areas proximal to Woman Creek. To get a quality characterization of the downgradient edge, the Workplan specified that the soil gas survey would take samples on a 25-foot grid between the last 100-foot soil gas sample within the IHSS boundary and the first 100-foot sample outside the boundary. The idea was to create a band of closely spaced coverage - not a line. Therefore, the Division proposes the following compromise. Replace the one line of 20-foot spacing with four lines of 40-foot spacing on a triangular grid. This preserves the 10-foot radius of influence when considering flowpaths occurring at a right-angle to the survey, covers a 60-foot wide band, and only adds the equivalent of one additional 20-foot spaced line.	It is proposed that three lines of 40-foot triangular (equilateral) spacing be employed at the downgradient perimeter of the landfill, instead of four lines. Three lines should adequately cover the 10-foot radius of influence with respect to flowpaths occurring at a right-angle to the survey. A fourth line would not contribute any improvement to the coverage. Figure 4 and the text of the Technical Memorandum has been changed to reflect this 40-foot triangular grid. This 3-row, 40-foot grid resulted in a band of 174 sampling points along the downgradient Landfill perimeter; a total of 343 points for the primary and secondary survey grids.	Comment acknowledged and accepted in part.
2	The Division urges that the analytical results from the primary and secondary samples that are planned be reviewed, mapped and interpreted in as rapid a manner as possible so that any tertiary samples that are necessary can be taken in a timeframe that minimizes potential survey variations. These variations could include weather, temperature, sampling crew, sampling device, etc.	Agreed. Text has been added to the Technical Memorandum to reflect this goal of rapid interpretation.	Comment accepted.

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REVIEWED FOR CLASSIFICATION/UCNI
BY G. T. Ostdiek
DATE 4-12-93

ADMIN RECORD

A-0U05-000150

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3	Text in Section 3.5 indicates that several intervals will be sampled at the first several sample points to determine the optimum depth for sampling at the subsequent sample locations. The Workplan specifically stated that the samples will be taken from a depth of 5 feet. Therefore, the Division would not support soil gas samples taken from a depth of less than 5 feet unless 1) subsurface conditions prevent sample port placement to that depth after several tries in the sample point vicinity, or 2) depth to bedrock or water is less than 5 feet.	Agreed. Technical Memorandum text has been changed to state that soil gas samples will be taken at "approximately five feet, " as specified in the Work Plan.	Comment accepted.
4	The Division is concerned about the definition of an anomaly as presented in Section 3.3, particularly since we note that very few, if any, soil gas samples are being taken from "undisturbed" areas or areas outside what could conceivably be affected by waste within the Landfill. We urge DOE to either re-define an anomaly or add sample locations in an unaffected or "background" areas (sic).	It is anticipated that the present soil gas survey grid will result in several locations exhibiting levels of contaminants at or below three times the laboratory detection limit, thereby providing a background level by which to determine anomalous readings. However, if fewer than five sample locations exhibit such low levels of contaminants, additional soil gas samples will be collected from the area bounded by the dirt-road loop just northwest of (and upgradient of) the IHSS 115 boundary. Soil gas concentration anomalies will be defined as those that are greater than three times the laboratory detection limit or greater than three times the observed non-zero background level.	Comment accepted in part.

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5	During review of Workplans that have been prepared since the OU 5 Workplan, the Division has been made aware that the confirmation soil cores may not accomplish their intended purpose and should be replaced by boreholes that characterize the entire alluvial interval. The Division would like to discuss this issue with DOE, EG&G, and sub-contractor representatives before implementation of this TM.	The text of the TM has been changed to reflect that the results of the soil gas survey will be verified by resampling 10 percent of the locations exhibiting anomalous readings and 10 percent of the locations exhibiting readings below three times the laboratory detection limit. The maximum number of repeat samples will be 27, so as not to exceed the 370 samples specified in the OU 5 Work Plan. The TM already states that plumes of volatile organics identified by the soil gas survey will be further assessed by the drilling of soil borings within the plumes. As specified by the OU 5 Work Plan, three soil borings will be placed at up to three areas where plumes have been identified. This will result in a maximum of nine soil borings being drilled at the three plume areas.	Comment accepted in part.